

ABSTRACT

Methods are provided for planarizing a work piece such as a semiconductor wafer. One such method comprises the steps of providing a semiconductor wafer having an insulating layer on a surface thereof, the insulating layer comprising a field region and a plurality of features. A barrier layer is formed overlying at least the field region and then a layer comprising copper and having a substantially planar upper surface is formed overlying the barrier layer and filling the features in the insulating layer. The layer comprising copper and the barrier layer are then planarized or polished on a single polishing pad to remove the layer comprising copper and the barrier layer from the field region.